

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A method comprising:  
  
representing each vector associated with an integrated circuit datapath design as one of a row and a column in a graphical interface; ~~[[and]]~~  
  
representing each bit slice associated with the integrated circuit datapath design in an orthogonal manner to the vectors in the graphical interface, the corresponding vector and bit slice representation in the graphical interface being different than an associated physical layout;  
  
representing information indicating connectivity between a selected vector and at least one of another vector and interface pins;  
  
providing drag and drop editing capabilities to move a vector,  
  
wherein, each vector includes a plurality of cell instances, and  
  
wherein, providing drag and drop editing capabilities includes providing drag and drop editing capabilities to move a group of cell instances; and  
  
providing an output capable of being used by a placement engine to produce an associated placement.

2. (Original) The method of claim 1 further comprising:  
  
using similar visual representations to indicate cell similarities.

3. (Original) The method of claim 1 wherein  
representing each vector includes representing each vector as a row, and  
wherein  
representing each bit slice includes representing each bit slice as a  
column.

Claims 4-6. (Canceled)

7. (Currently Amended) An apparatus comprising:  
a vector extraction engine to extract vectors from an input file associated  
with an integrated circuit datapath design; and  
a vector editor to provide a graphical interface to represent and edit the  
extracted vectors as one of a row and a column and to represent bit slices in an  
orthogonal manner to the extracted vectors, the vector editor further to visually  
represent connectivity information indicating connections between a vector and  
one of another vector and an interface pin, the graphical interface further to  
provide drag and drop editing capabilities to move one or more of vectors, bit  
slices and connections, the vector editor to provide an output that is capable of  
being used by a placement engine to produce an associated placement.

8. (Original) The apparatus of claim 7 wherein  
the graphical interface is further to represent similar cells associated with  
the integrated circuit design using a similar visual representation.

9. (Original) The apparatus of claim 8 wherein the vector extraction engine is to extract vectors using a name-based vector extraction approach.
10. (Original) The apparatus of claim 8 wherein the vector extraction engine is to extract vectors using a bus/connectivity-based vector extraction approach.
11. (Original) The apparatus of claim 7 wherein the graphical interface is further to represent similar cells associated with the integrated circuit design using a similar color and stippling.
12. (Original) The apparatus of claim 7 wherein the vector editor is further to assign one of a plurality of predetermined visual representations to each cell type associated with the integrated circuit design.
13. (Canceled)
14. (Canceled)
15. (Currently Amended) The apparatus of claim ~~[[14]]~~ 12 wherein

the vector editor is to provide data to a placement engine, the placement engine to output a datapath placement associated with the integrated circuit design.

16. (Original) The apparatus of claim 15 wherein the vector editor is further to provide at least one metric indicating a quality of the data provided by the vector editor.

17. (Original) The apparatus of claim 7 wherein the vector editor provides at least one of an auto-merge and an auto-align command.

18. (Currently Amended) A computer-accessible storage medium storing information that, when accessed by a machine, causes the machine to:

- represent vectors associated with an integrated circuit datapath design in one of a row and a column in a graphical interface; [[and]]
- represent bit slices associated with the integrated circuit datapath design in an orthogonal manner in the graphical interface, wherein the manner in which the vectors and bit slices is represented in the graphical interface is different than an associated physical layout;
- represent connectivity between a vector and one of another vector and an interface pin;
- provide drag and drop editing capabilities to move a vector; and

provide an output that is capable of being used by a placement engine to produce an associated placement.

19. (Canceled)

20. (Currently Amended) The computer-accessible storage medium of claim [[19]] 18 further storing information that, when accessed by a machine, causes the machine to:

extract the vectors from an input file associated with the integrated circuit datapath design.

21. (Original) The computer-accessible storage medium of claim 20 wherein

extracting the vectors from the input file includes using a name-based extraction approach.

22. (Original) The computer-accessible storage medium of claim 20 wherein

extracting the vectors from the input file includes using a bus/connectivity-based extraction approach.

23. (Currently Amended) An apparatus comprising:

a vector editor to represent vectors associated with an integrated circuit datapath design as one of rows and columns and bit slices associated with the integrated circuit datapath design in an orthogonal manner in a graphical interface, wherein the row and column representation is different than an associated physical layout,

the vector editor to provide one of an auto-merge and an auto-align command to operate on the vectors,

the vector editor to represent connectivity between a vector and one of another vector and an interface pin,

the vector editor to provide drag and drop editing capabilities to edit the vectors, bit slices and associated connectivity; and

a placement engine to receive an output of the vector editor and to produce an associated placement.

24. (Original) The apparatus of claim 23 wherein,  
the vector editor is further to use similar visual representations to identify similar cell instances.

25. (Original) The apparatus of claim 24 wherein,  
similar visual representations includes a combination of a similar color and a similar stippling technique.

26. (Canceled)